

'Walking distance' test an accurate indicator of disease severity in patients with COPD

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The six-minute walking distance test (6MWD), a test that measures a patient's ability to tolerate exercise and physical activity, is an effective tool for understanding disease severity in patients with chronic obstructive pulmonary disease (COPD), according to a three-year global study of patients with COPD sponsored by drug manufacturer GlaxoSmithKline.

The study will be presented at the ATS 2011 International Conference in Denver.

"We found that baseline 6MWD was predictive of [hospital admission](#) with an acute COPD exacerbation, was relatively stable in milder COPD, and has a steady rate of decline in patients with severe disease," said study author Martijn Spruit, PhD, scientific advisor and research leader at the Centre of Expertise for Chronic [Organ Failure](#) (CIRO+) in Horn, the Netherlands. "This confirms prior observations that the results of the 6MWD are related to the risk of death in patients with COPD, and that the test is a useful tool in understanding [disease severity](#) in patients with COPD."

Researchers studied 2,110 patients with moderate to severe COPD who underwent a supervised 6MWD at study enrollment to provide a baseline value and annually for 3 years. Death and exacerbation-related hospitalization were recorded.

During 3 years of observation, 200 patients died and 650 were

hospitalized for [exacerbations](#). [Mortality rates](#) and exacerbation-related hospitalization were higher in COPD patients as baseline 6MWD decreased. Researchers found that a 6MWD threshold of 357 meters was optimal to predict increased risk of hospitalization; while a 6MWD threshold of 334 meters was optimal to predict an increased risk of death. The mean rate of deterioration of the 6MWD was 5.7 meters per year and was primarily limited by the ability of the patient to breathe easily.

"Exercise tolerance is an important clinical aspect of COPD which can be easily and reliably measured with the 6MWD test," Dr. Spruit said. "These data confirm the power of the 6MWD to identify subsets of the COPD population at higher risk of exacerbation-related hospitalization or death.

"The ability to group COPD patients according to their functional status disease severity should enable healthcare providers to better tailor therapy for their patients and optimize use of medical resources," he added. "Patient grouping is also useful for those designing interventional studies in COPD; for example, if the aim of an intervention were to reduce the rate of exacerbation related admission, then a study can be designed by including primarily patients at higher risk of that outcome."

Dr. Spruit also noted that the 6MWD test offers benefits over a more traditional test of COPD disease severity, the FEV1 (forced expiratory volume in the first second) which measures a patient's ability to forcefully exhale air in one second. "The FEV1 has limitations as a marker of disease severity in COPD because it fails to capture systemic manifestations of the disease," he said. "This study was designed to determine if the 6MWD could be an additional measure of disease severity, and the results confirmed that it can."

Provided by American Thoracic Society

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